

PATENT

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Claims:

1. A laser level assembly, comprising:
 - a base having a laser coupled thereto;
 - at least one attachment means for attaching the laser level to a surface, the attachment means selected from at least one member of the group consisting of a suction assembly, an anchoring assembly, a magnet, and an adhesive;
 - an adjustment assembly, wherein the adjustment assembly provides a micro adjustment of at least a portion of the laser level relative to the surface;
 - a lens assembly, wherein the lens assembly selectively aligns and positions one of at least two lenses with respect to the laser; and
 - an auxiliary base attachable to the base to provide leveling adjustments.
2. A laser level assembly, comprising:
 - a base;
 - a laser; and
 - a suction assembly to provide a suction between the suction assembly and a surface, the suction for attaching the laser level assembly to the surface.
3. The laser level assembly of claim 2, wherein the suction assembly comprises:
 - a pad;
 - a yoke operatively connected to the pad; and
 - a lever extending to the yoke and shaped to raise the yoke when moved from a first position to a second position.
4. The laser level assembly of claim 3, wherein the pad comprises a lip surrounding a periphery of the pad for contact with the surface.
5. The laser level assembly of claim 3, wherein an outer periphery wall of the base and at least one inner wall of the base located a distance from the outer periphery wall press against the pad to provide a seal between the surface and the pad.

PATENT

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6. The laser level assembly of claim 3, further comprising a magnet operatively connected to the yoke.
7. The laser level assembly of claim 2, further comprising an adapter unit for use with an adhesive to attach the laser level to the surface.
8. The laser level assembly of claim 2, further comprising a 45 degree vial.
9. The laser level assembly of claim 2, further comprising a belt clip.
10. A laser level assembly, comprising:
 - a base;
 - a structural member pivotally secured to the base;
 - a laser secured to the structural member; and
 - an adjustment assembly, wherein the adjustment assembly provides a movement of the structural member relative to the base that is less than a movement applied to a handle of the adjustment assembly.
11. The laser level assembly of claim 10, wherein the adjustment assembly comprises a Scotch Yoke.
12. The laser level assembly of claim 10, further comprising a 45 degree vial.
13. The laser level assembly of claim 10, further comprising a belt clip.
14. A laser level assembly, comprising:
 - a base;
 - a laser; and
 - a lens assembly, wherein the lens assembly selectively aligns and positions one of at least two lenses with respect to the laser.

PATENT

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15. The laser level assembly of claim 14, wherein the lens assembly comprises at least three lenses.
16. The laser level assembly of claim 14, wherein the lens assembly is rotatable.
17. The laser level assembly of claim 16, wherein the lens assembly comprises a rotary part that spaces the at least two lenses on a plane in a circular arrangement.
18. The laser level assembly of claim 16, wherein the lens assembly comprises:
 - a rotary part that secures the at least two lenses on a plane in a circular arrangement; and
 - a detent mechanism, wherein a ball of the detent mechanism urges into a profile on an outside circumference of the rotary part.
19. The laser level assembly of claim 18, wherein the rotary part comprises a polygonal shaped center aperture with a member at least partially therein to attach the rotary part to the laser level assembly.
20. The laser level assembly of claim 14, further comprising a 45 degree vial.
21. The laser level assembly of claim 14, further comprising a belt clip.
22. A laser level assembly, comprising:
 - a base;
 - a laser; and
 - a lens assembly comprising multiple lenses wherein a first lens provides a first symmetrical linear dispersion and a second lens provides an asymmetrical linear dispersion.
23. The laser level assembly of claim 22, wherein a third lens provides a cross-shaped symmetrical dispersion.

PATENT

Attorney Docket No.: OLYM/0095
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24. The laser level assembly of claim 22, wherein a third lens provides a second symmetrical linear dispersion that is oriented ninety degrees relative to the first symmetrical linear dispersion.
25. The laser level assembly of claim 22, wherein a third lens provides a circular dispersion.
26. A laser level assembly, comprising:
 - a base;
 - a laser; and
 - at least one anchoring assembly for attaching the laser level to a surface, comprising:
 - at least one retractable sharpened projection; and
 - a locking mechanism for selectively securing the at least one retractable sharpened projection in a retracted position.
27. The laser level assembly of claim 26, wherein the locking mechanism includes at least one rib within a base of the laser level assembly that aligns in an unlocked position and misaligns in a locked position with at least one slot in a circumference of the at least one retractable sharpened projection.
28. The laser level assembly of claim 26, further comprising an adapter member for use with an adhesive to attach the laser level to the surface.
29. The laser level assembly of claim 28, wherein the adapter member includes a compartment for storing the adhesive.
30. The laser level assembly of claim 26, further comprising a 45 degree vial.
31. The laser level assembly of claim 26, further comprising a belt clip.

PATENT

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32. A laser level assembly, comprising:
 - a base having a laser coupled thereto; and
 - a member removable from the base, the member having a flat surface on one side for attaching an adhesive and a compartment on an opposite side for storing the adhesive, wherein the adhesive attaches the laser level to a surface.
33. A laser level assembly, comprising:
 - a laser lever;
 - an auxiliary base comprising:
 - an upper plate;
 - a lower plate;
 - at least one elastomer connected to each plate; and
 - two screws at a first end of the auxiliary base that extend through the upper plate and contact the lower plate to provide leveling adjustments.
34. The laser level assembly of claim 33, further comprising a ball positioned within a socket defined by an area between the upper and lower plates at a second end of the auxiliary base.
35. A method for projecting a reference line on an object, comprising:
 - contacting a suction assembly of a laser level to a surface;
 - rotating a lever of the suction assembly to raise a portion of a pad thereby creating a suction between the pad and the surface; and
 - projecting a laser on the object to display the reference line.
36. The method of claim 35, further comprising:
 - rotating a rotary part to select a lens.

PATENT

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37. The method of claim 35, further comprising:
rotating an adjustment handle to provide micro adjustments of the laser level relative to the surface.
38. A method for projecting a reference line on an object, comprising:
attaching a laser level to a surface;
rotating an adjustment handle to provide micro adjustments of the laser level relative to the surface; and
projecting a laser on the object to display the reference line.